

REMARKS/ARGUMENTS

Prior to entry of this Amendment, claims 8-16 and 24-31 were present for examination in this application, claims 17-22 having been previously withdrawn and claim 23 having been previously canceled. Claim 8 is amended to correct an obvious typographical error. No claims canceled by this paper, and claims 32-38 are added. Therefore, claims 8-16 and 24-38 are now present for examination, and claim 8 is the independent claim. No new matter is added by these amendments.

Applicant believes these amendments place the application in condition for allowance, and respectfully requests that the amendments be entered and that the application as amended be reconsidered in light of the following remarks.

Rejection Under 35 U.S.C. § 112 and New Matter Objection

The Office Action has rejected claims 8-16 and 24-31 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. In a related action, the Office Action objects to the amendment filed October 7, 2009 under 35 U.S.C. § 132(a) as allegedly introducing new matter into the disclosure, specifically in claims 8 and 25-28.

Applicant respectfully traverses.

With regard to claim 8, the Office Action alleges that the disclosure as filed does not disclose that *the first fluid flows through the block*, or that *the second fluid flows through the respective second block*. In support of the rejection, the Office Action points to Applicant's Figure 2 and highlights portions of the blocks that the fluids allegedly do not flow "through". Applicant respectfully notes that one accepted definition of "through" is "into and out of at the opposite, or at another, point." (<http://define.com/through>). As is shown in Figure 2, fluids flow into the blocks and out of other ports on the blocks. The fluids thus flow **through** the blocks. Furthermore, paragraph [0009] of the specification refers to "fluid velocity **through** the heating and cooling blocks", and paragraph [0010] indicates that "fluids of different temperatures ... cycle **through** opposing blocks ...." (Emphasis added.)

With regard to claims 25 and 26, the Office action alleges that the original disclosure does not support that *the first fluid and the second fluid are received from external storage reservoirs* or that *the first fluid and the second fluid circulate to and from external storage reservoirs*. However, paragraph [0010] of the specification plainly states that

Multiple fluids of different temperatures for circulating to and from external storage tanks or reservoirs cycle through opposing blocks of different fluid temperatures generate electricity within the thermoelectric modules. Cold blocks numbers 1 and 3, are in spring compression around hot block number 7. Electricity is generated in thermoelectric modules number 10 and number 11. Cold water enters via number 9 and exits number 12. Hot water enters via number 8 and exits from number 2 to return to a storage reservoir.

(Emphasis added.)

With regard to claim 27, the Office Action alleges that the original disclosure does not show *a common inlet through which the second fluid is received for distribution to all of the second thermal modules*. However, paragraph [0010] of the specification clearly states that in the embodiment shown in Figure 1, “[c]old water enters via number 9 and exits number 12.” As can be seen in Figure 2, inlet 9 is connected to a network of channels enabling fluid to flow through all of the second thermal modules.

With regard to claim 28, the Office Action alleges that the original disclosure does not disclose that *both fluids are liquids*. However, the specification clearly indicates that both fluids can be water. (Specification paragraph [0010]). As is well known, water is a liquid. As justification for the rejection, the Office Action argues that “the specification fails to provide support that at the time of the invention applicant has possession to every possible kind of heat transfer liquid....” (Office Action p. 3). Applicant respectfully notes that claim 28 depends from claim 8, and adds the limitation that *both fluids are liquids*. Claim 28 is thus narrower than claim 8, and adds only material that is clearly described in the specification. Furthermore, the specification does not indicate that the use of water is in any way critical to the operation of the invention. In fact, the broader word “fluid” appears much more often in the disclosure than the word “water”.

Applicant believes all of the rejections under 35 U.S.C. § 112, first paragraph and the corresponding objections to be unfounded, and requests that they be withdrawn.

**Rejection Under 35 U.S.C. § 102(b), DeBucs References**

The Final Office Action (“Office Action”) has rejected claims 8-15, 24, 25, 27, 28, 30, and 31 under 35 U.S.C. §102(b) as being allegedly anticipated by the cited portions of DeBucs, U.S. Patent 3,607,444 (“DeBucs”).

Applicant respectfully traverses.

Claim 8 recites in part that

*the first thermal module comprises a first block including a first passage through which first passage the first fluid flows through the block; and ...*

*each of the plurality of second thermal modules comprises a respective second block including a respective second passage through which second passage the second fluid flows through the respective second block....*

Thus, the first and second thermal modules of claim 1 are blocks. DeBucs does not disclose at least this aspect of claim 8, and therefore does not anticipate claim 8.

In support of the rejection, the Office Action cites element 17 of DeBucs as disclosing the claimed *first thermal module*, and elements 16 of DeBucs as disclosing the *second thermal modules*. (Office Action p. 7). However, while DeBucs describes its elements 17 as “thick plates or blocks” (DeBucs col. 4 lines 53-54), elements 16 are not blocks, but are “tubes” made for example of “spring steel”, and are “elastically deformable in the axial direction of the thermocouple element legs....” (DeBucs col. 4 lines 62-73).

DeBucs does not disclose, expressly or inherently, each and every element in claim 8, and therefore does not anticipate claim 8. Claims 9-15, 24, 25, 27, 28, 30, and 31 depend, directly or indirectly, from claim 8 and add further limitations, and are therefore also not anticipated.

It also would not have been obvious to modify the system of DeBucs to use blocks for both the first and second thermal elements, because such a modification would destroy

the function of DeBucs' system. An important feature of DeBucs' system is that tubes 16 are elastically deformable, so that "thermal expansions of the legs of the thermocouple elements and manufacturing tolerances in the length of the legs are compensated by the elastic deformation of the flow channel constructed in the form of a tube." (DeBucs col. 2 lines 20-24). To replace DeBucs' elastically deformable tubes with relatively rigid blocks would not permit DeBucs' system to perform as it is intended.

**Rejection Under 35 U.S.C. § 103(a), DeBucs, Sorber and Hed References**

The Office Action has rejected claim 16 under 35 U.S.C. §103(a) as being allegedly unpatentable over the cited portions of DeBucs, as applied to claim 8 above, and further in view of Sorber, U.S. Patent 4,564,504 ("Sorber"). Claim 16 depends indirectly from claim 8 and adds further limitations. The Office Action relies on DeBucs to teach or suggest all of the elements of claim 8. As is explained above, DeBucs fails to do so. Sorber does not cure the deficiencies of DeBucs, and claim 16 is believed allowable over DeBucs and Sorber.

The Office Action has rejected claim 26 under 35 U.S.C. §103(a) as being allegedly unpatentable over the cited portions of DeBucs, as applied to claim 8 above. Claim 26 depends from claim 8 and adds further limitations. As is explained above, DeBucs does not teach or suggest all for which it is relied upon with regard to the rejection of claim 8, and claim 8 is believed allowable over DeBucs. Claim 26 is therefore also believed allowable, at least by virtue of its dependence from an allowable base claim.

The Office Action has rejected claim 29 under 35 U.S.C. §103(a) as being allegedly unpatentable over the cited portions of DeBucs, as applied to claim 28 above, and further in view of Hed, U.S. Patent 5,228,923 ("Hed"). Claim 29 depends indirectly from claim 8 and adds further limitations. The Office Action relies on DeBucs to teach or suggest all of the elements of claim 8. As is explained above, DeBucs fails to do so. Hed does not cure the deficiencies of DeBucs, and claim 29 is believed allowable over DeBucs and Hed.

**New Claims**

Claims 32-38 are newly added and are supported throughout the specification, especially at least in Figures 1 and 2. These claims depend from claim 8 and add further

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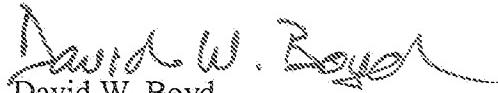
limitations, and are therefore believed allowable at least by virtue of their dependence from an allowable base claim.

**CONCLUSION**

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

  
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